

Notice of Allowability

Application No.

10/699,948

Examiner

Jeffrey Sharp

Applicant(s)

BUCKNELL, JOHN WENTWORTH

Art Unit

3677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/11/2005.
2. ☒ The allowed claim(s) is/are 1-9, 11-18, 21, 22, 32, 33 and 35-37.
3. ☒ The drawings filed on 06 May 2004 and 15 June 2005 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☒ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: Australia patent application PP8905.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

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EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Dennis Lambert on 18 August 2005.

The application has been amended as follows:

1. (Currently amended) A hydraulic tensioner for use in a high tensile force environment where space is limited, said tensioner applying tension to a studbolt extending from an article, said tensioner comprising:

a puller bar having a threaded end for threaded engagement with a threaded end of the studbolt;

hydraulic means for exerting a pulling force on the puller bar and thus the studbolt to apply tension to the studbolt;

a cone nut assembly for fitment to the studbolt in a position adjacent the article, said cone nut assembly comprising a nut body for threaded engagement on said studbolt and having a downwardly and inwardly substantially conical or tapered peripheral outer surface, and an outer annular collar or shell radially surrounding said nut body with a complementary conical or tapered recess to receive most of the nut body, in use; and

a bridge for extending around and over the nut body, operable to react between the hydraulic means and the article to tension the studbolt by a pulling force exerted by said hydraulic means on said puller bar to pull said end of the studbolt in a direction away from the article, said nut body being adjustable on the studbolt and against the tapered recess in the outer annular collar to take up elongation of the studbolt as a result of applying tension to it;

wherein, said bridge stands directly upon said outer annular collar in operation.

9. (Currently amended) A coupling ~~for an~~within a hydraulic tensioner for applying tension to a studbolt extending from an article and fitted with a nut and an outer annular collar radially surrounding said nut, wherein said tensioner comprises a puller bar for engagement with an end of the studbolt, hydraulic means acting between the puller bar and the article and operable to cause the puller bar to tension the studbolt by pulling said end of the studbolt in a direction away from the article, and a bridge extending around and over the nut for transmitting reactive force from the hydraulic means to the article, said bridge standing directly upon said outer annular collar, and wherein said coupling comprises:

an internally threaded bore in an end of the studbolt and a ~~complementary~~ complimentary externally threaded end on the puller bar, said internally threaded bore and said externally threaded end being tapered at an angle of about 10° to a length axis of the studbolt, and said threads being substantially uniform and constant throughout their length and comprising buttress threads having a flank or shoulder facing away from the article and substantially perpendicular to the common axes of the studbolt and puller bar and a flank or face facing toward the article and oriented at an angle of about 45° to the length axis of the studbolt.

15. (Currently amended) A washer for use between the cone nut assembly and article in the tensioner as claimed in Claim 1, said washer comprising:

a first annular means and second annular means mating at a slip plane angled from a plane transverse to the axis of the washer; and

removable or releasable means holding the first and second annular means against relative slip over the slip plane therebetween while the removable or releasable means is in place.

16. (Currently amended) ~~ANA~~ hydraulic tensioner for application with a stud bolt extending from an article and fitted with a cone nut and an outer annular collar radially surrounding said cone nut, said tensioner comprising:

a puller bar having a longitudinal axis and a tapered end tapered at an angle of about 10° to said longitudinal axis, said tapered end having an external thread for engagement in an internal thread in an end of the studbolt, said external and internal threads comprising buttress threads having a shoulder or flank lying substantially perpendicular to the longitudinal axis of the puller bar;

a puller buddy having an internally threaded end for engagement with an external thread on said end of the studbolt, and means ~~engageable with~~ on the puller bar for exerting a pulling force on the puller buddy when a pulling force is exerted on the puller bar; and

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an hydraulic means acting between the puller bar and the article via a bridge positioned around and over said cone nut and against the puller bar to pull the puller bar and puller buddy in a direction away from the article to tension the studbolt;

wherein, said bridge stands directly upon said outer annular collar in operation.

17. (Currently amended) A cone nut assembly ~~for use within an~~ hydraulic tensioner for applying tension to a studbolt extending from an article, wherein the tensioner includes a puller bar for connection with an end of the studbolt, and an hydraulic means acting via a bridge between the puller bar and article to exert a pulling force on the studbolt in a direction away from the article, said cone nut assembly comprising:

a cone nut body having an axial length and ~~with~~ a substantially conical or tapered peripheral outer surface along a substantial portion of said axial length;

an outer annular collar radially surrounding said nut body and having~~with~~ a complementary conical or tapered recess to receive the cone nut body, in use;

the cone nut body being screwed, in use, on said studbolt and into the recess of the outer annular collar, and adapted to be adjusted along said studbolt and against said collar to take up elongation of the studbolt as a result of applying tension to it;

wherein, said bridge stands directly upon said outer annular collar in operation.

18. (Currently amended) A washer for use between the cone nut body and article in the tensioner as claimed in claim 17, the washer comprising:

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first and second annular means mating at a slip plane angle from a plane transverse to the axis of the washer; and

removable or releasable means holding the first and second annular means against relative slip over the slip plane therebetween while the removable or releasable means is in place.

37. (Currently amended) A hydraulic tensioner as claimed in claim 1, wherein: the bridge is engaged between the hydraulic means and the outer annular collar.

The following is an examiner's reason for allowance with comment:

The amendment clarifies the structure of the "nut body" and "collar or shell", so that they do not read on conventional self-leveling/self-centering nut-washer assemblies common in the art. A "collar or shell" may be broadly construed as a washer, unless the new "radially surrounding...etc." limitation is added.

The prior art suggests a puller bar having right angle "buttress threads" and a "nut body for threaded engagement on a studbolt having a downwardly and inwardly substantially conical or tapered peripheral outer surface, and an annular collar or shell with a complimentary conical or tapered recess to receive the nut body in use". This is evidenced by U.S. Pat. No. 4,773,146 to Bunyan. Bunyan clearly shows buttress threads (40,42) on a puller bar (21) to sustain high tensile loads, and a nut (14) and annular collar or shell (15) having the mating tapered interconnection disclosed.

The prior art further suggests a puller bar comprising "external buttress threads" having a 10 degree taper, said threads comprising perpendicular and 45 degree flanks. This is evidenced by U.S. Pat. No. 4,280,274 to Filer. Filer clearly teaches (col. 3 lines 25-36) tapered buttress threads (18,19) on a puller bar (17). The puller bar (17) having this tapered thread profile is advantageously well-suited for a hydraulic tensioning apparatus (col. 3 lines 53-54).

Mr. Bucknell's declaration states: "The HydraJac bridge stands directly upon the outer sleeve, and applies force to the joint face through the component, allowing for an even spread of compressive load across the spot face. No other tensioner system does this." This statement has been incorporated into each base claim.

The phrases "for an" and "for use in" in the preambles of claims 9 and 17, respectively, have been amended to positively recite the hydraulic tensioner and all of its features.

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Australia (PP8905) on 26 February 1999. It is noted, however, that applicant has not filed a certified copy of the Australian application (PP8905) as required by 35 U.S.C. 119(b). It was previously indicated in the Office Action cover sheet (mailed on 13 December 2004), that no certified copy of this foreign priority document was received. Applicant has failed to address this in the communication received on 13 June 2005.

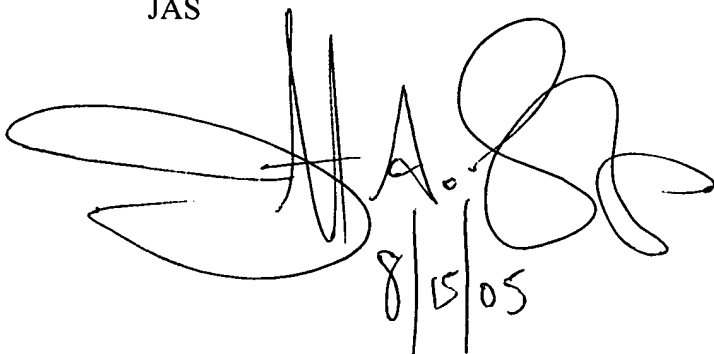
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Sharp whose telephone number is (571) 272-7074. The examiner can normally be reached on 5:30 am - 4:00 pm Mon-Thurs..

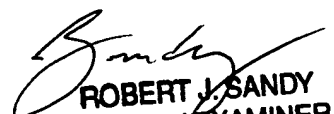
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J.J. Swann can be reached on (571) 272-7075. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JAS



8/15/05



ROBERT J. SANDY
PRIMARY EXAMINER